

Cosmic Visions Dark Energy Programme

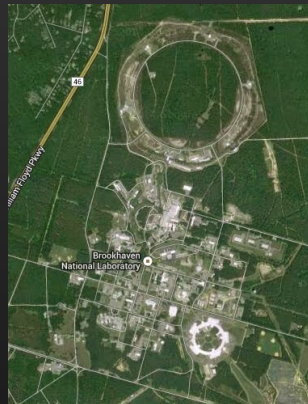
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Welcome!

- ▶ BNL is one of the multi-purpose labs in the DOE complex
- ▶ Around 3300 employees of which 0.1% are cosmologists
- ▶ Cosmology instrumentation effort started in 2003 when BNL joined LSST
- ▶ The Physics department hires started in 2008



“You can see it (RHIC) on top of this picture, along with a pentagram at the bottom called the national synchrotron light source II. Here we already have the famous 6 to 5 relationship, pentagram and hexagram, which can esoterically symbolize masculine and feminine.” [internet]

DOE and HEP

- ▶ DOE sponsors research in HEP in the particle physics model
- ▶ DOE follows experiments from birth to grave and expects robust results requiring concerted effort of gazillion individuals
- ▶ NSF runs prof+student+dog call-for-proposals spiel, DOE runs big collaborations



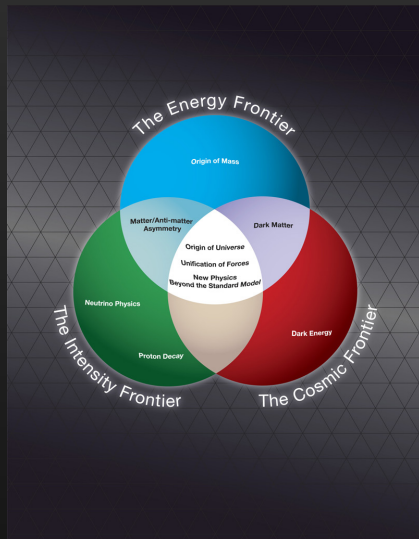
NSF



DOE

Cosmic Visions Program

- ▶ DOE set up three
Cosmic Visions
program
- ▶ The aim of these
programs is to inform
DOE what should be
its next steps in Cosmic
Frontier



Cosmic Visions Program

- ▶ **CV CMB** is for the CMB community to set up a Stage-4 experiment
- ▶ **CV DM** is for the DM community to set up a ton-scale experiment
- ▶ **CV DE** is for the DE community to think what it wants to do after LSST/DESI
- ▶ But maybe we don't want to do DE after all
- ▶ This is an open-ended call, but within limits: P^5 is a strong boundary condition

Cosmic Visions DE

The Office of High Energy Physics office of the US Department of Energy has set up a group to study the scientific reach of future cosmic surveys. The group will collect and coordinate ideas from the HEP community for research activities, experiments, projects or facilities that will complement, build on, and extend beyond the current program planned for the 2020s in the 2014 P5 report (DESI, LSST, CMB-S4) in investigating the physics probed by surveys. The group was charged to produce a white paper in January 2016 that will include diverse ideas for the future relevant to the HEP program, ranging from blue sky methods to new project concepts to further use of facilities.

Cosmic Visions DE

- ▶ Composed of 8 humans, whose primary goal is to act as interface between community and DOE:
 - ▶ Scott Dodelson, Chair
 - ▶ Katrin Heitmann
 - ▶ Chris Hirata
 - ▶ Klaus Honscheid
 - ▶ Aaron Roodman
 - ▶ Anže Slosar
 - ▶ Uroš Seljak
 - ▶ Mark Trodden
- ▶ Input through these meetings or e-mail `cosmicvisions@fnal.gov`
- ▶ White paper produced in January
- ▶ Community workshop in the spring (LBL)

Today

- ▶ Program <http://1.usa.gov/1N2Pt1B>
- ▶ Talks 15min + 15 min discussion
- ▶ Any problems: hassle me or other locals